DOCUMENT RESUME

ED 067 241 SE 014 499

TITLE	Environment, Teacher Manual, Primary, Idea I, Land.
INSTITUTION	Environmental Education Project, Grafton, Ill.
SPONS AGENCY	Bureau of Elementary and Secondary Education (DHEW/OE), Washington, D.C.
PUB DATE	[72]
NOTE	57p.
EDRS PRICE	MF-$0.65 HC-$3.29
DESCRIPTORS	*Environmental Education; Instructional Materials; *Land Use; Learning Activities; Natural Resources; *Primary Grades; *Teaching Guides; Units of Study (Subject Fields)
IDENTIFIERS	Elementary Secondary Education Act Title III; ESEA Title III

ABSTRACT

The Environmental Education Project Center has developed these guidelines for teaching a unit in environmental studies. It is their intention that the teacher and student cooperatively plan the approach and content to be used during the course of study. In this unit about land, teacher resource information and student material are combined to form a teacher's manual for use in the primary grade levels. Project objectives, behavioral objectives, and pre- and post-test questions introduce the unit sections followed by ideas, actions, and/or activities to develop awareness of land and its uses. Major topics of discussion range from plants and animals associated with soil to litter, control measures, and resource use. Field trips emphasizing concepts previously learned are suggested, and additional sources of information and materials for both students and teachers are listed. This work was prepared under an ESEA Title III contract for the project "Operation Survival Through Environmental Education." (BL)

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ENVIRONMENT

PRIMARY

Idea I

Land

TEACHER MANUAL

Title III
ESEA

"Operation Survival Through
Environmental Education"

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ENVIRONMENTAL IDEAS FOR THE STUDENT

-LAND-

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D. I See and I Remember...

I N T R O D U C T I O N

to

ENVIRONMENT Idea I Land

PRIMARY RESOURCE UNIT

The Title III, Environmental Education Project Center is providing your class with the following materials to teach a unit on land.

Student Manuals - 1 per student
Teacher Manual - 1
Supplementary Materials (as requested by the classroom teacher)

It is the project's intention to provide guidelines for the teacher and student to cooperatively plan the approach and content to be used during the course of study. All or part of the material can be used after evaluating the needs of the students.

The Environmental Education Project is evaluated by meeting objectives as outlined in the original project proposal. The resource units are written to meet these project objectives with additional material deemed necessary by the project staff, area teachers and administrators, and local environmental concerns.

A summary of the project objectives is provided to inform you of the areas being evaluated concerning the land unit. It is...

- decrease in leaf burning
- decrease in use of trash burning barrels
- decresse in burning off areas of vegetation cover on fields
- decrease in use of pesticides in the homes, the gardens, and the fields
- decrease in the number of pounds of litter on a 50 foot section of the banks of Wood River Creek
- increase in use of litter bags in automobiles

- increase in the purchase of soft drinks in returnable containers.

- increase in books and magazines relative to environmental problems checked out of school libraries and instructional materials centers.

- increase in classroom use of films and filmstrips on environmental education.

- increase in number of subscriptions to periodicals and other publications relative to environmental education.

Students and families of students involved in the project are evaluated on the basis of the above stated objectives. Any approach that you and/or your students might originate will be most welcome at the Project Center.

A concept-activity file is constantly being formulated at the Project Center to supplement the resource unit. Additional activities should be evaluated and used to increase motivation and interest depending on the students' background.

The concepts as stated in the original proposal are further stated in the field trip section. These concepts are primarily concerned with the land unit. Additional concepts should be developed to meet the needs of the individual teacher and students at the appropriate grade level.

Behavioral objectives are necessary to devise a method of evaluation and proper instruction. The following behaviorial objectives are listed as a basis to follow in the teaching of the land unit. Additional objectives should be devised by the teacher as they apply to the individual needs of the students.

1. Students will be able to identify components of soil.

2. Students will be able to identify some soil organisms.

3. Students will be able to identify the parts of plants that are found in the soil.

4. Students will be able to identify several living things that grow in the soil.

5. Students will be able to identify places where litter should be placed.

6. Students will be able to identify common containers that can be reused.

A pre-test and a post-test must be given to each student. The results, in terms of percentage gain or loss, should be returned to the project center. A test is included for the use of the teacher. Directions should be read to students unable to read for themselves. After completion of the pre- and post-test, please grade and fill in the information as indicated on the teacher evaluation form.

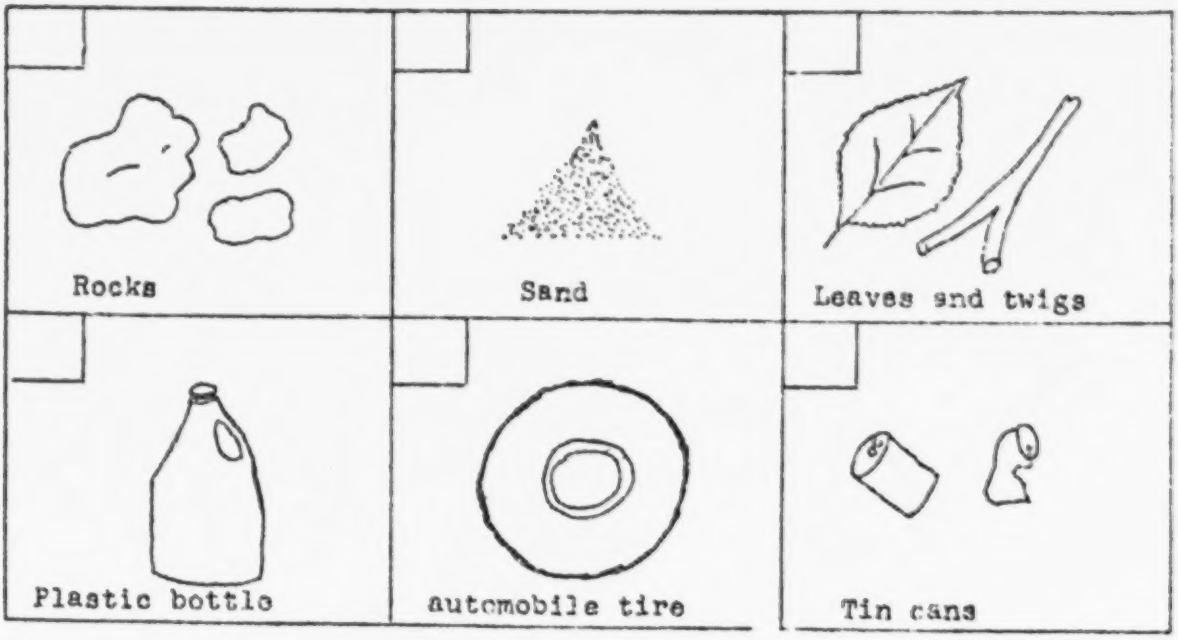
The teacher's manual includes the actual student guide plus guidelines for the teacher to use while instructing students. Actions 5 and 6 are for your use in conducting field trips and determing what resources you want to use.

Not included in the teacher's manual are the transparancy master and the charts/forms for student use. These items are included in the teacher packet of supplementary materials. This arrangement will allow you to make multiple copies to distribute to your students. You are invited to obtain a teacher packet on a loan basis from the Title III Center. Our telephone number is 618-786-3313.

TEST

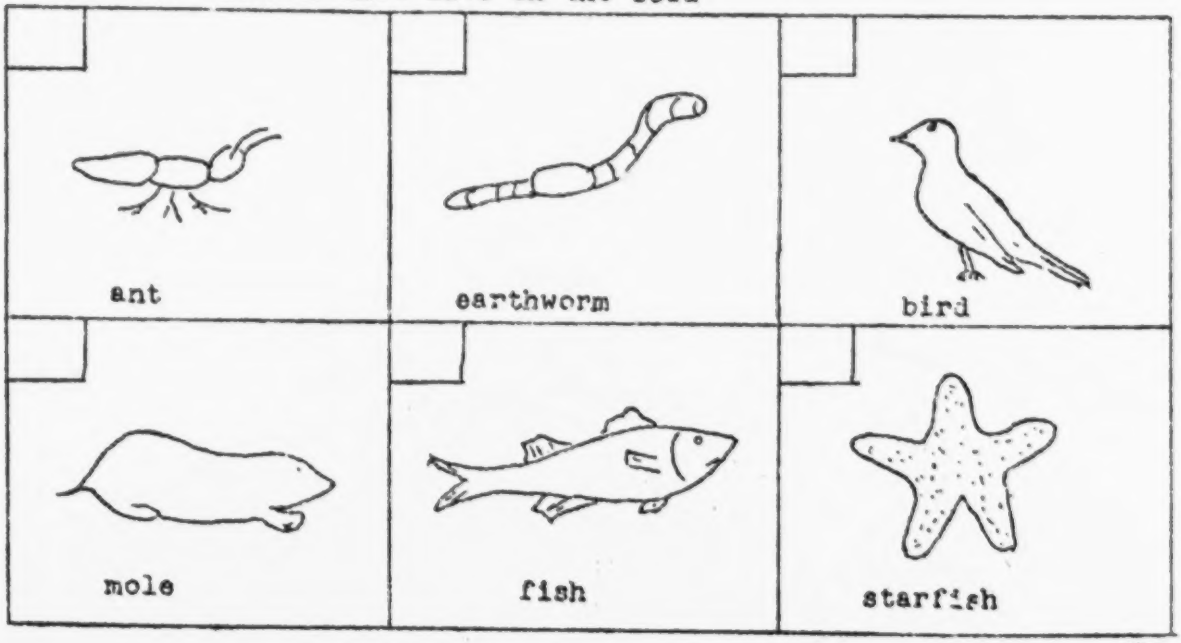
SOIL

Check what makes up soil



ANIMALS IN THE SOIL

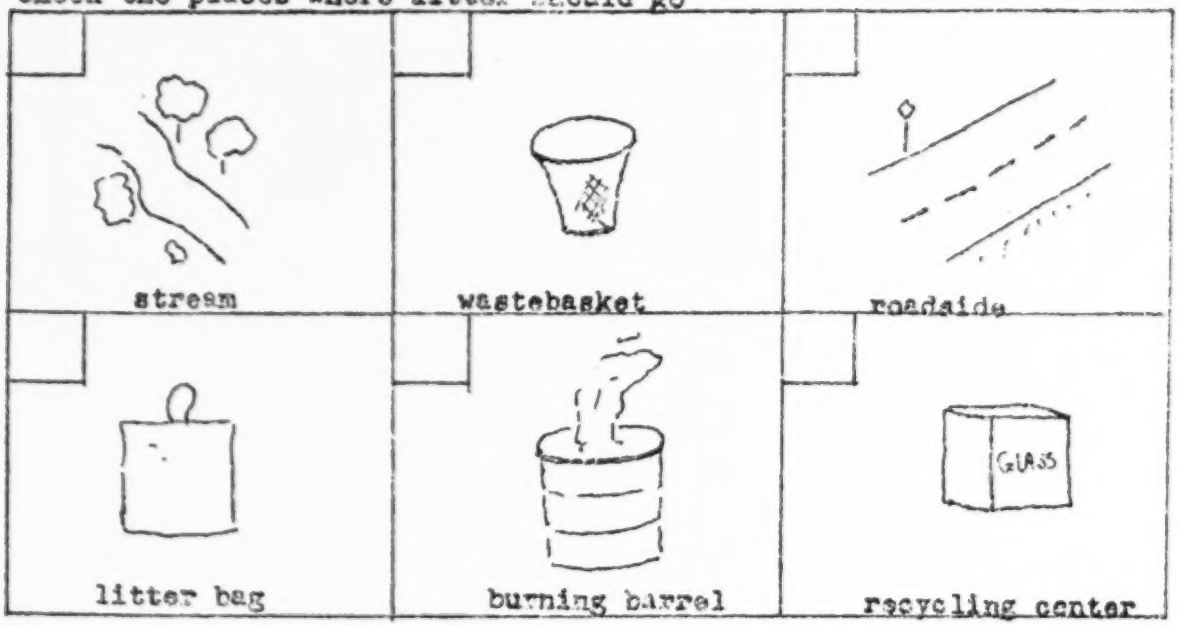
Check the animals that live in the soil



TEST

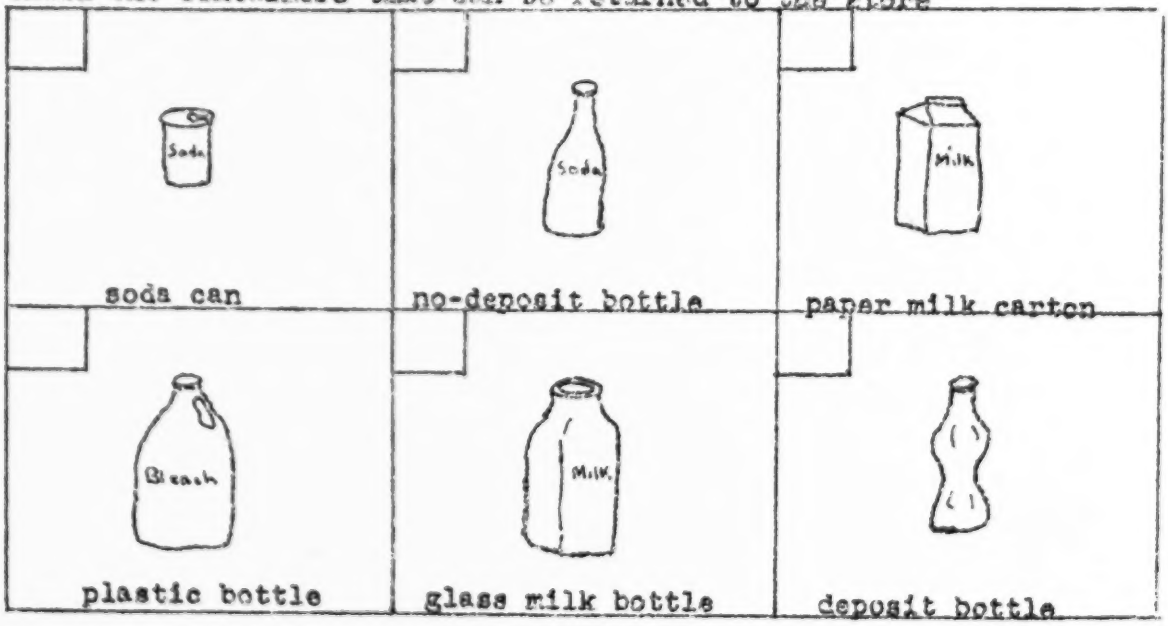
LITTER

Check the places where litter should go



CONTAINERS

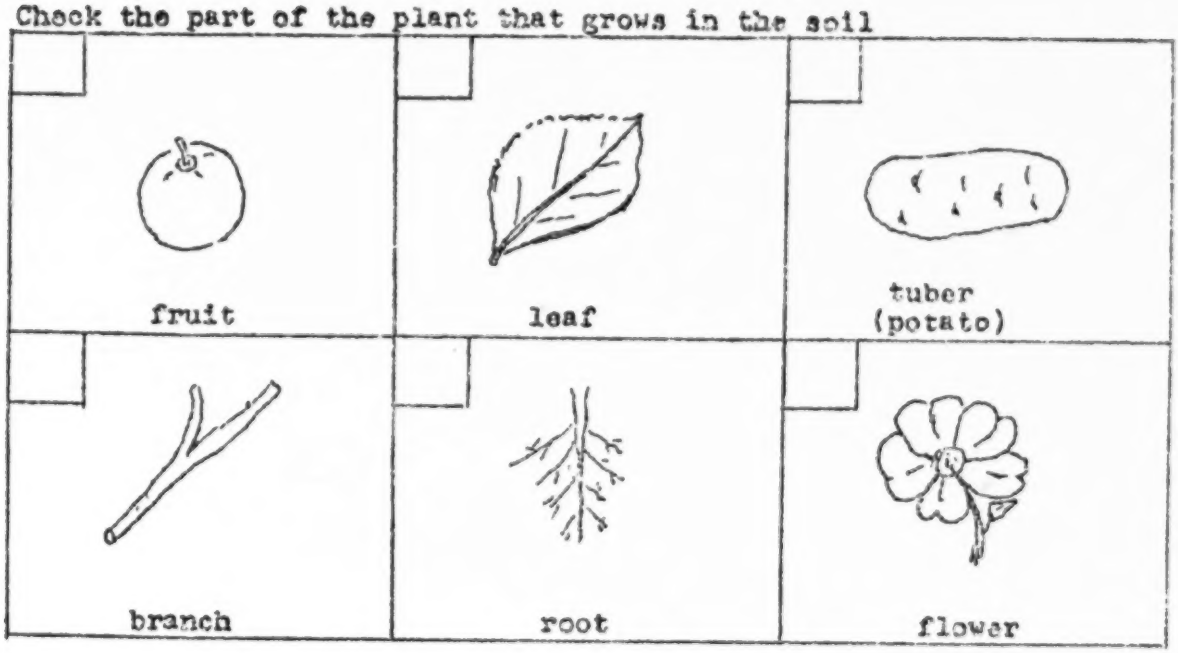
Check the containers that can be returned to the store



TEST

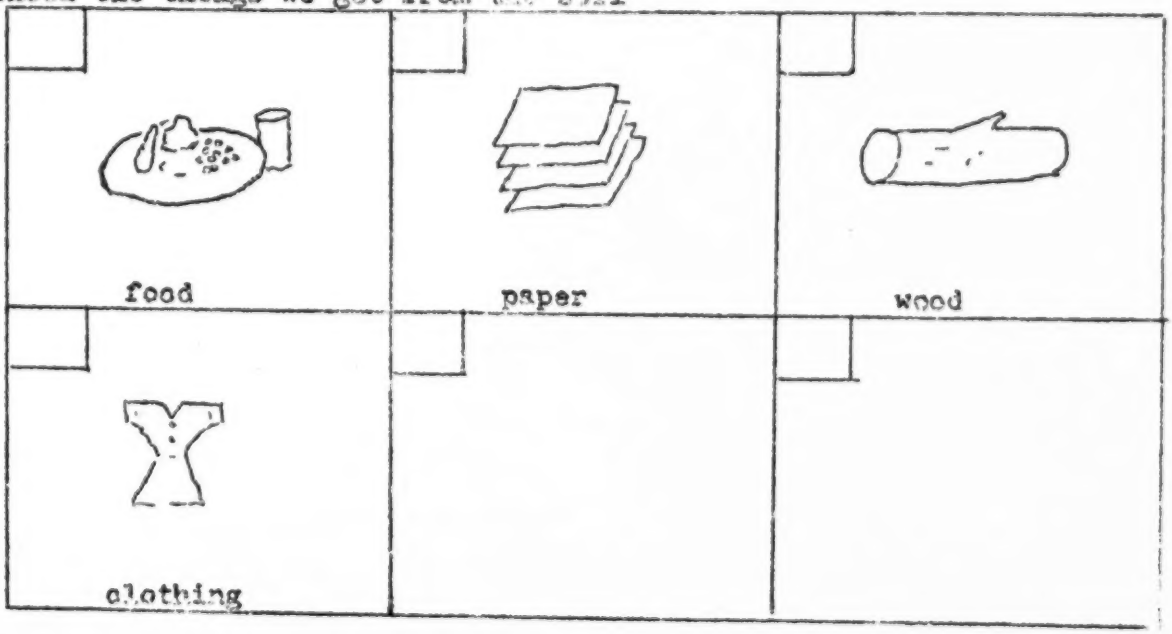
PLANTS IN THE SOIL

Check the part of the plant that grows in the soil



THINGS FROM THE SOIL

Check the things we get from the soil



PRE- AND POST-TEST

TEACHER'S ANSWER SHEET

Instructions: Tests can be a useful teaching aid. After the students have taken the post-test and grades recorded, it might be well to go over the answers and discuss them. The following are the correct and incorrect answers from the point of view of the authors and some of the rationale for the answers.

Litter:	Correct - Wastebasket, litterbag, and recycling center. The recycling center would be preferred as the litter in the wastebasket and litter bag must be further disposed of.
	Incorrect-- Stream, roadside, and burning barrel. Streams and roadsides are still widely used as dumps. Emphasize the undesireability of this and the alternatives. Burning barrels or incenerators are now illegal in many places.
Containers:	Correct - Glass milk bottle and deposit bottle. The others are one-use containers. The soda can and no-deposit bottle <u>can</u> be recycled but not reused.
Soil:	Correct - Rocks, sand, and leaves and twigs. Sand is a component of soil, rocks break down to smaller particles and leaves and twigs are broken down into humus.
Animals in the Soil:	Correct - Ant, earthworm, and mole. These animals are important in moving and aerating soil. Fish, starfish and birds don't live <u>in</u> the soil.
Plants in the Soil:	Correct - Tuber and roots. Roots and tubers grow in the soil and help in maintaining soil by breaking it up, by the addition of humus in the soil, and by helping to hold it in place.
Things from the Soil:	All answers are correct.

ENVIRONMENT

Idea 1
Land

ENVIRONMENTAL IDEAS FOR THE STUDENT

Dirty air, dirty water, and poor soil are big problems we face.

How are we going to solve these problems?

This booklet should help you think about some answers.

PLEASE DO NOT MARK IN THIS BOOKLET. OTHER CHILDREN WILL WANT TO USE IT WHEN YOU ARE FINISHED.

ENVIRONMENT

Idea 1
Land

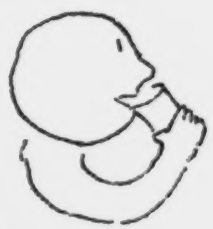
Action 1

Free Gifts

DO PEOPLE NEED PLANTS?

The air, the water and the ground are very important to people.

We all need water to drink.



Everyone must have air to breathe.

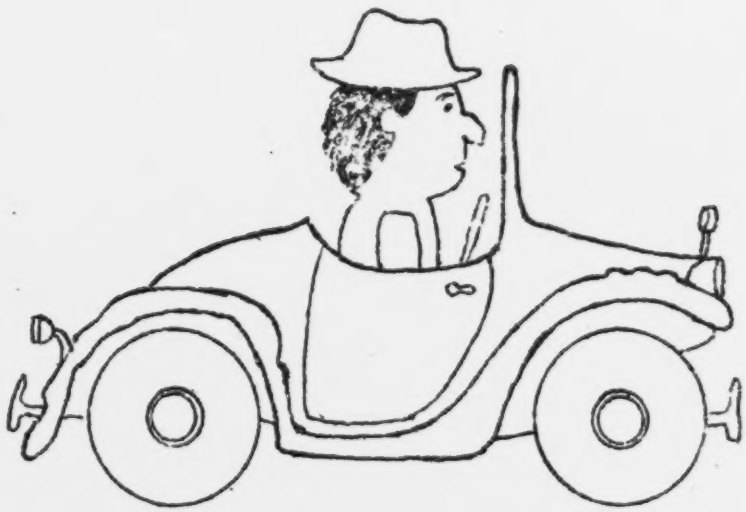
People use soil to walk on and grow things.

Each person has a right to use some air, some water, and some soil.

We call these things natural resources. They are called NATURAL resources because they occur in nature and they are free.

People use air, land, water, and other natural resources to make things;

such as a car.



How many other natural resources can you name?

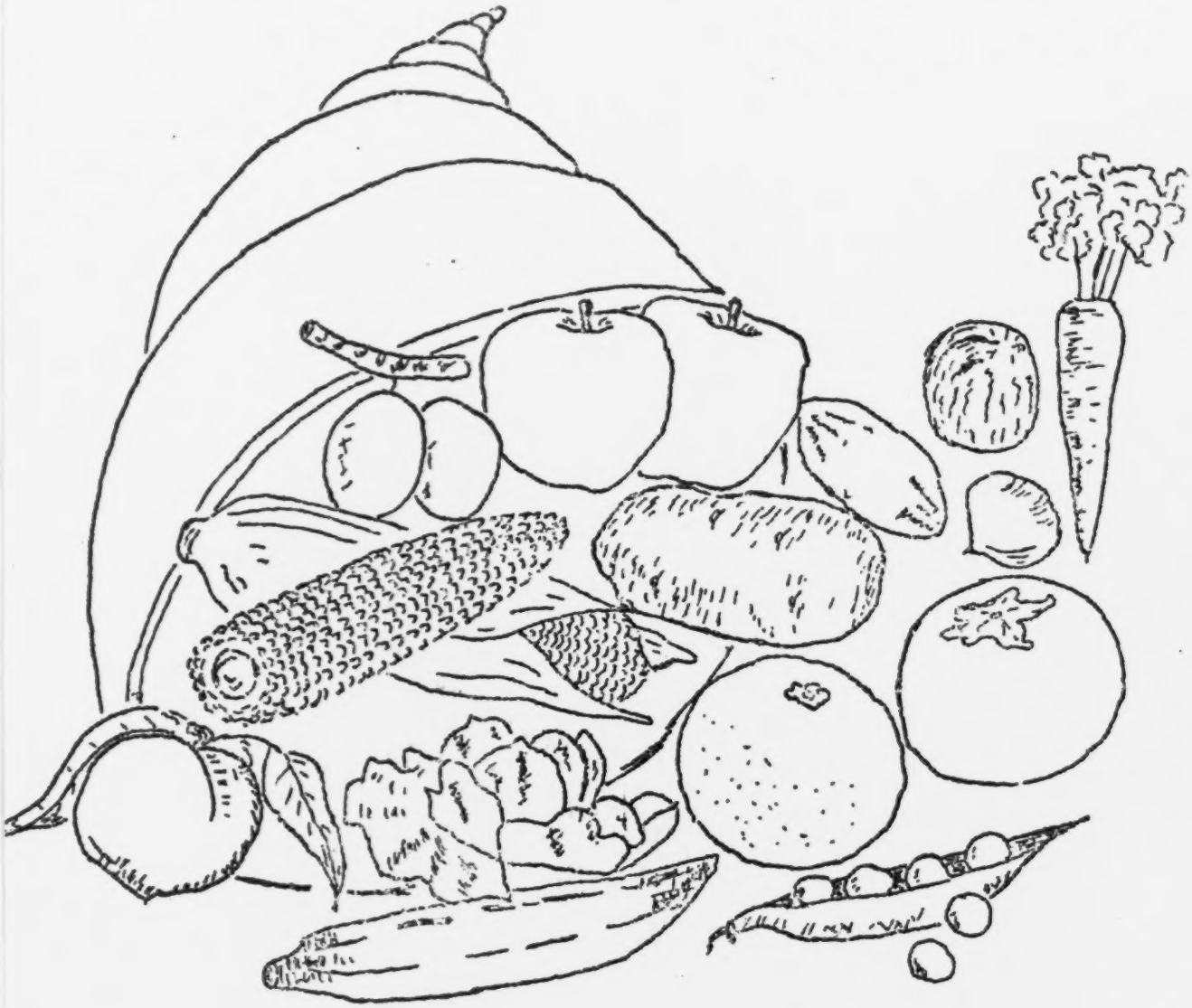
If we are always going to have natural resources, we have to take care of them.

ARE WE?

Soil is an important natural resource.

WHY?

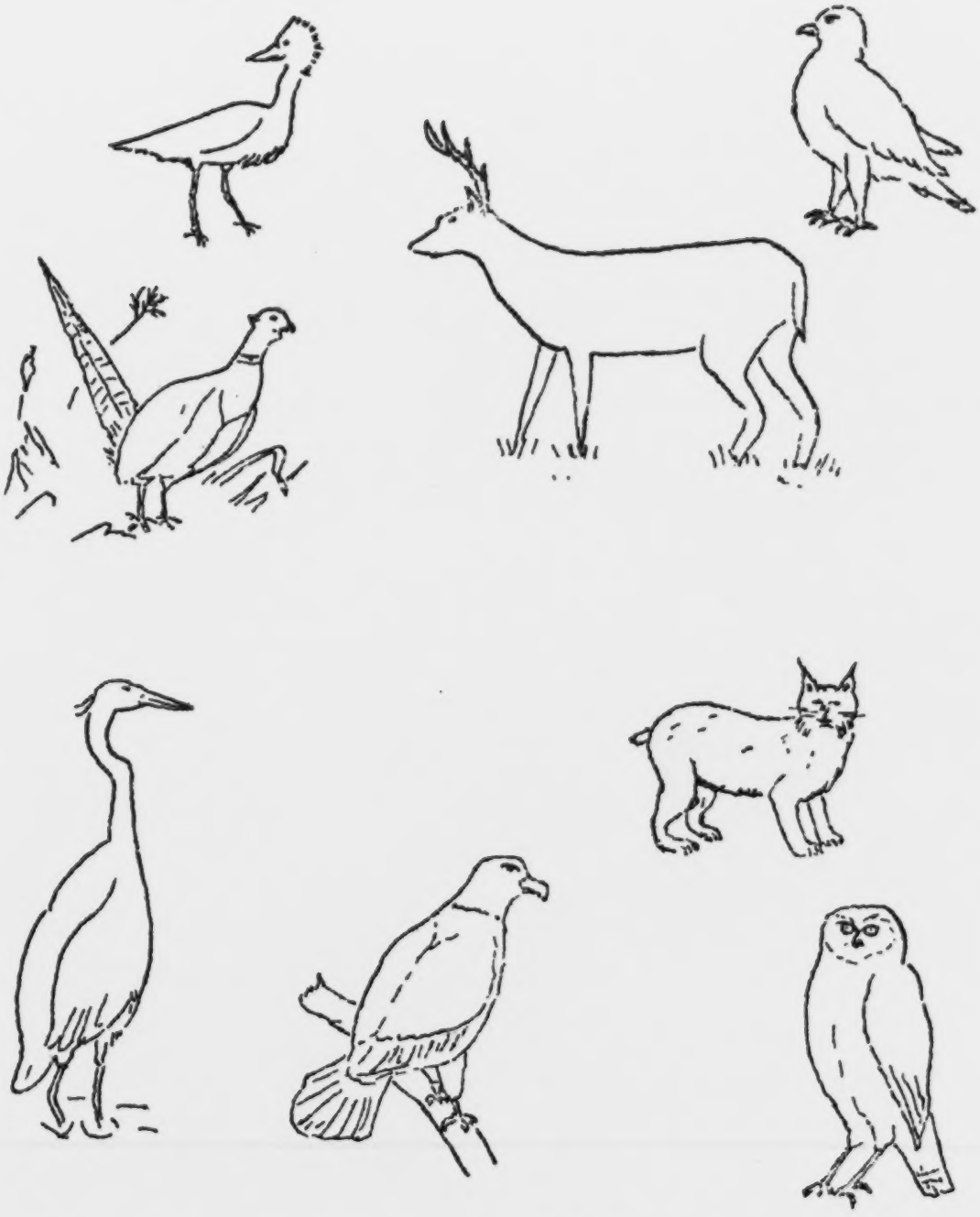
GOOD THINGS FROM THE SOIL



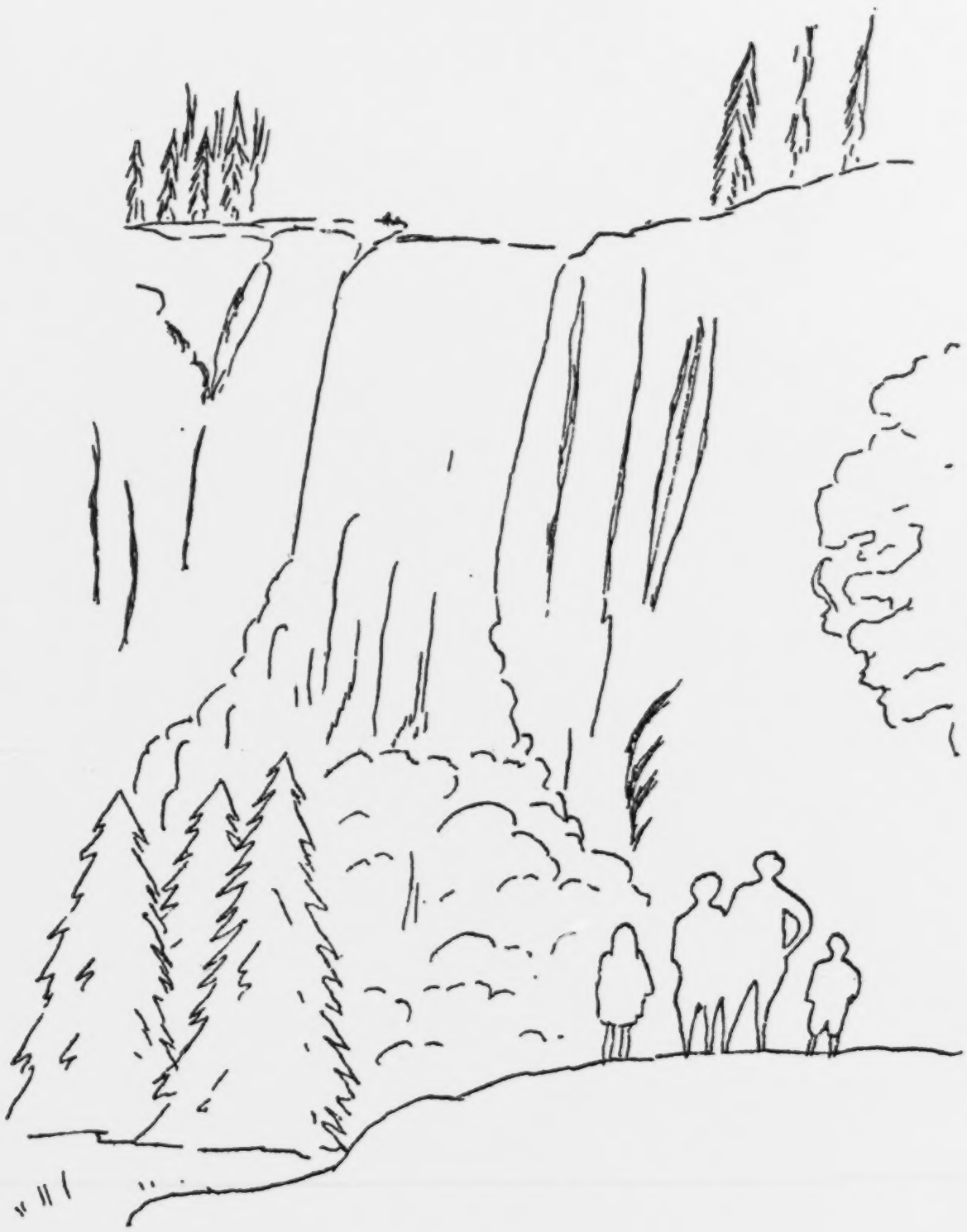
Soil is an important NATURAL RESOURCE

Grasslands and Forests

Wildlife



Open Space and Recreation



TEACHER'S GUIDE

ACTION I

Environmental Ideas For The Student - Young children may not have thought about these problems as yet. A discussion and explanation on the problems mentioned here would start the unit off with enthusiasm.

Free Gifts - The quotation is from James Fenimore Cooper's book, The Prairie. It serves as a take-off point in the Land Unit for Primary grades in the discussion of Natural Resources.

Following are some suggestions you might want to consider in teaching this unit.

1. The large pictures in the unit are designed as coloring pages for younger students. You will be provided with master sheets to produce spirit masters from the Thermofax. Discussion of the pictures could bring out that some natural resources are inexhaustable, although subject to misuse (air, water), that others are exhaustable and irreplaceable (examples include coal, gas, oil, and the mineral resources such as iron, copper, etc,). Once they have been used, that's all there is. Soil, in some respects, is irreplaceable, because once it has washed away, it may take more than a lifetime to build up new soil. Another class of resources is the replaceable resources. In this category could be placed forests, grasslands, and some wildlife. Even after they have been used or destroyed in a certain area, they can, to a certain extent, be renewed. This does not include, of course, a species of plant or animal completely wiped out. Open space and recreation resources are becoming more and more important as our population increases. A discussion with the class should bring out the various means of outdoor recreation enjoyed by the pupils' families.

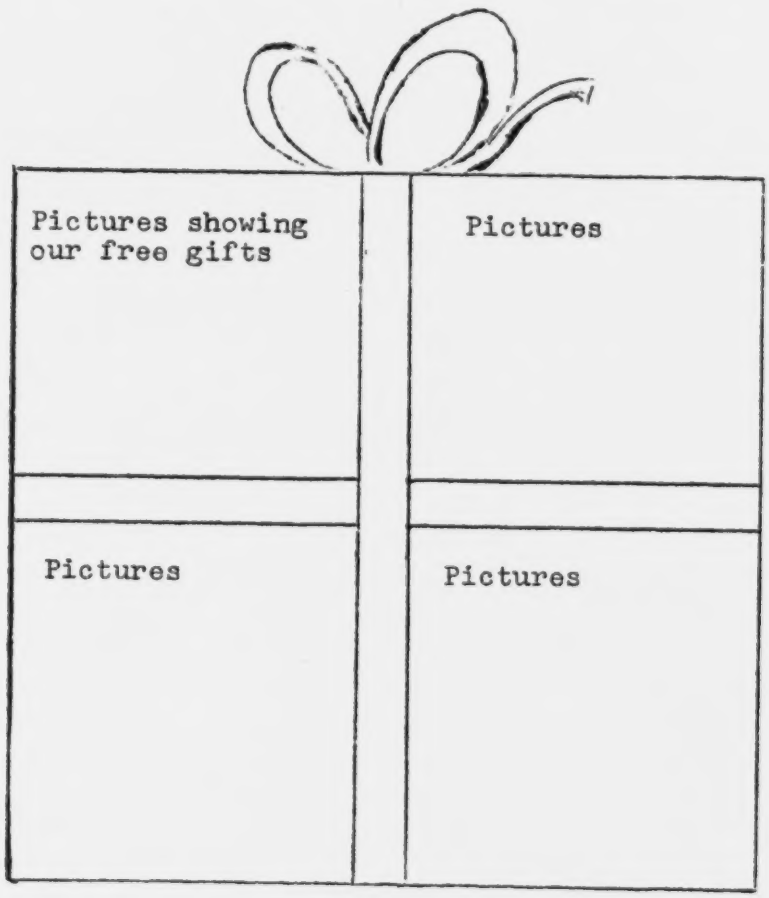
2. Use a slide series on Man's Misuse of His Natural Resources. A carousel tray with slides and a taped narration are available through the Title III, Environmental Education Project Center, or develop your own slide show.

3. Have the students prepare a bulletin board with pictures showing the natural resources of the community. Perhaps two views could be shown; when the community was settled and now.

Teacher's Guide Action 1 (cont.)

4. The automobile in the introduction might be used in a bulletin board. Draw or cut out a drawing of an automobile-- have lines from parts of the automobile to labels of natural resources-- e.g. rubber, steel, glass, etc.

5. Another bulletin board idea, suggested by a teacher, is as follows:



These pictures can be cut-out of magazines or drawn by the children.

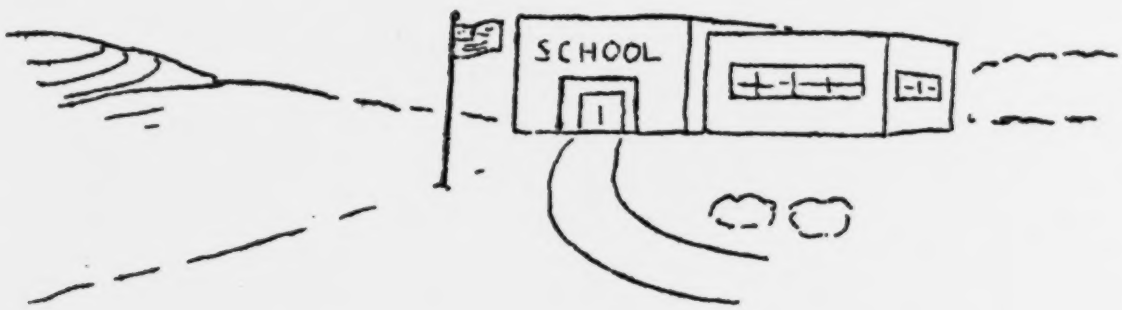
ENVIRONMENT Idea 1 Land

Action 2

Soil?

What is soil?

We walk on it.
Farmers grow crops in it.
We know that our lawn grows in soil and that our houses and schools are built on top of soil.



But do you really know what soil is?

SOIL

THE BASIS FOR LIFE

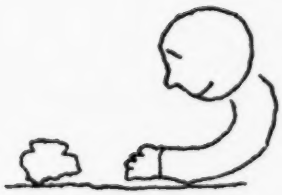
A. HELLO SOIL!!

Turn over some soil

Pick some up!
Smell it!

Feel it!

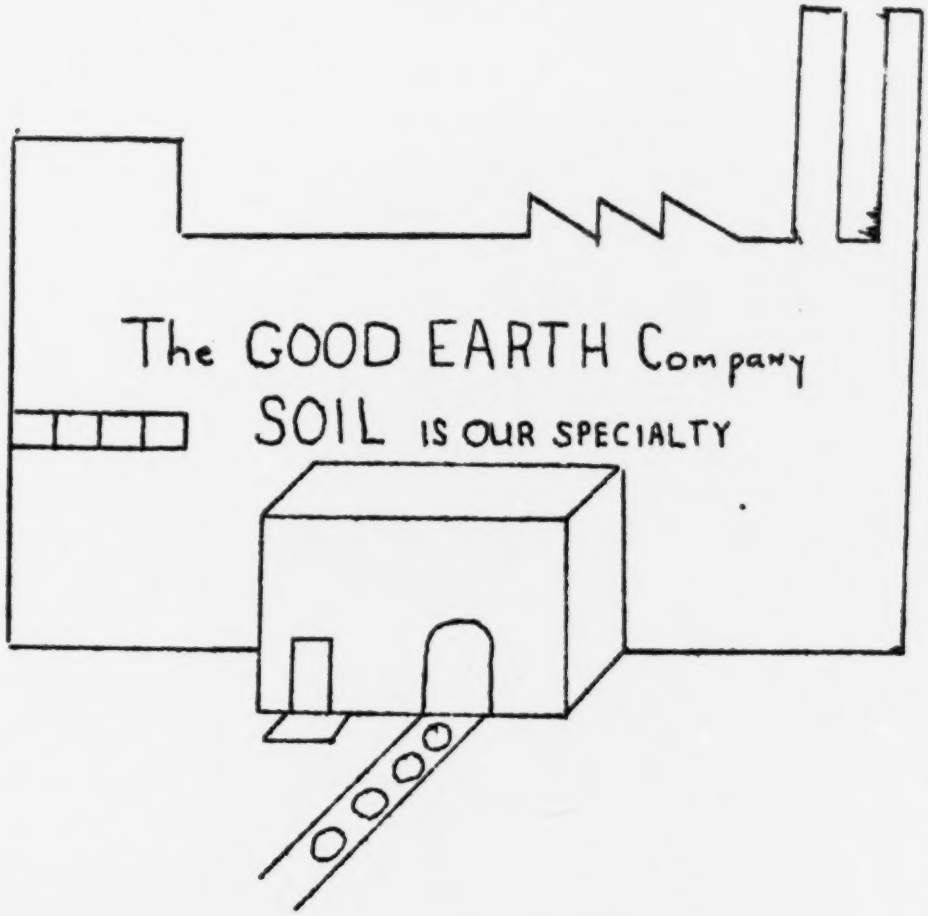
Crumble it and
listen to it!



Look at it!

Talk about soil.

B. STICKS AND STONES CAN'T BREAK MY BONES-- 'CAUSE THAT IS WHAT I'M MADE OF !



Soil is made in a soil factory.

This factory is called the Earth.

Rocks are broken up by water, weather and other causes.

The small pieces are called sand, silt or clay.

Dead leaves, grass, sticks and other dead plants and animals become HUMUS

Sand, silt, clay and humus are mixed together to form soil.

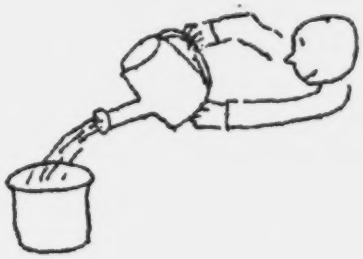
MAKE SOME SOIL

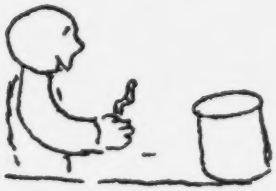
Rub two soft rocks together.

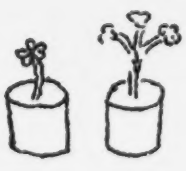
Crumble some dried leaves, grass or something like them.

Mix them together in a large can.

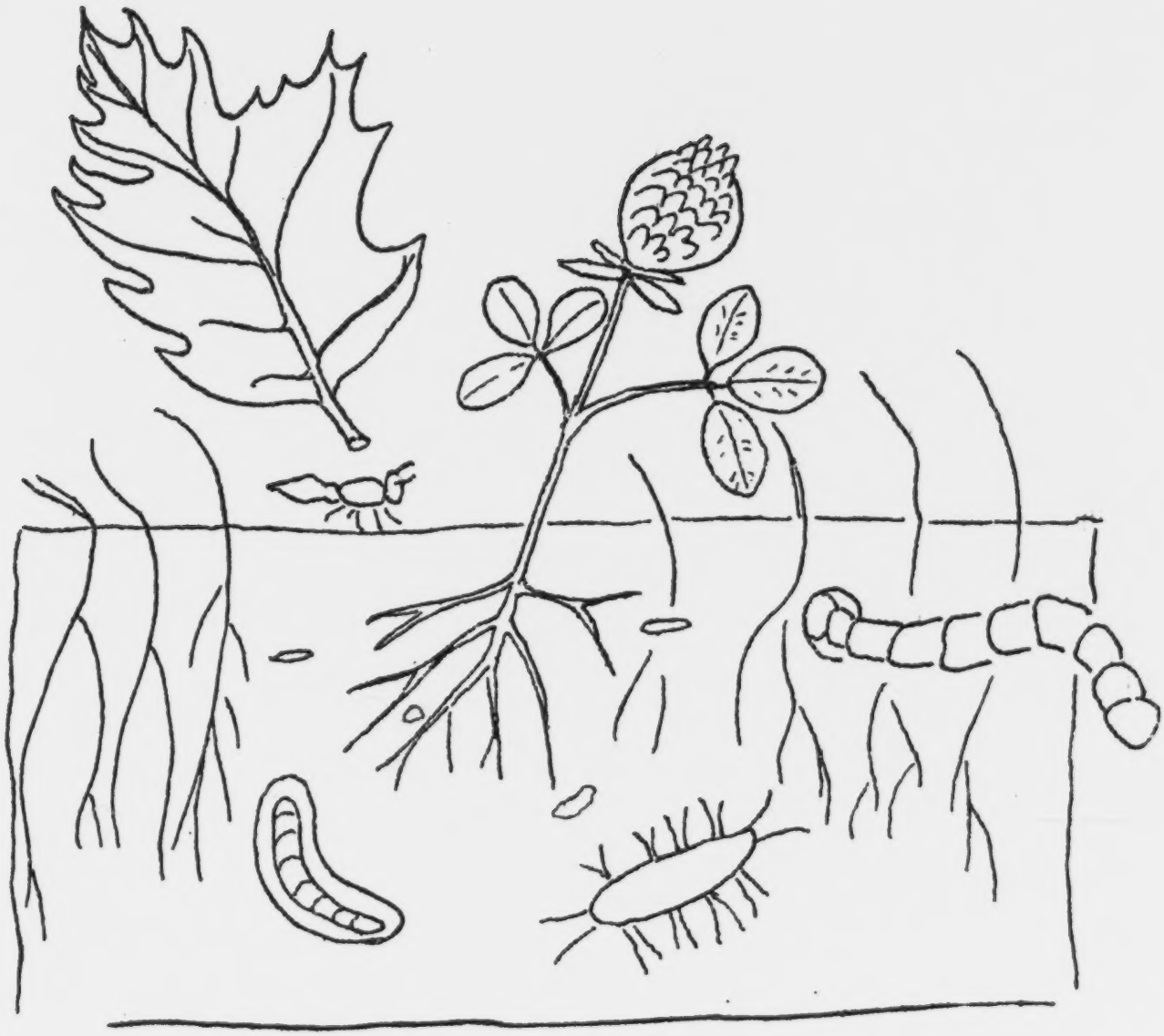
Wet all of this with water. (Not <u>too</u> wet!)







Dig up some earthworms from the garden and put them in your soil. In a few days you will have good soil in your can. Maybe you would like to grow something in your soil.



Many plants and animals live in the soil.
How many can you name?

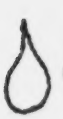
C. RAINDROPS KEEP FALLIN'.

A r_ _ _d_ _ _ can m_ _ _ soil.

's soon become a s_ _ _ _ _.

and a s_ _ _ _ _

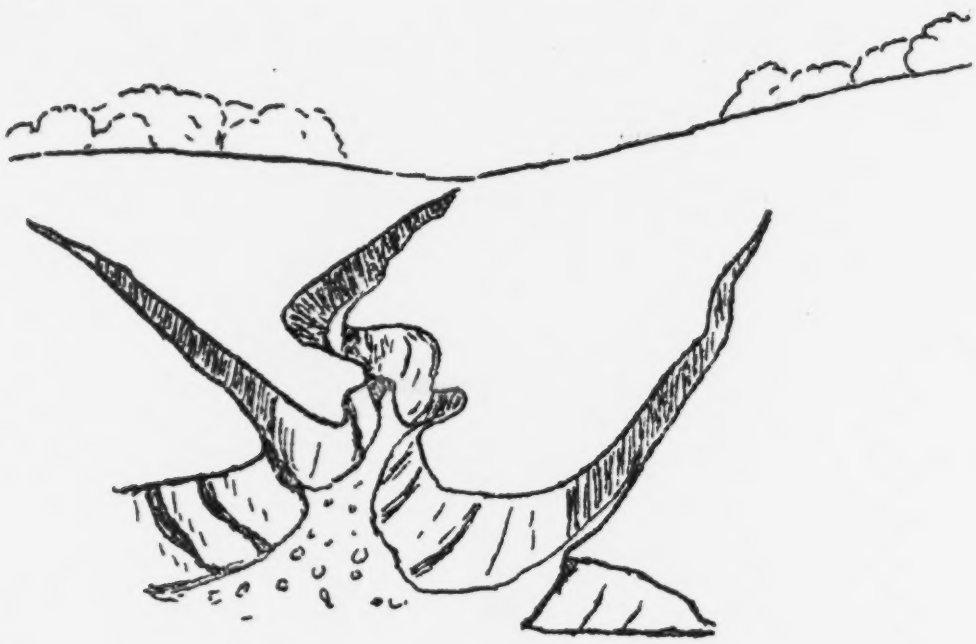
soon becomes a r_ _ _ _.

As  's r_ _ off the soil

some of the s_ _ _

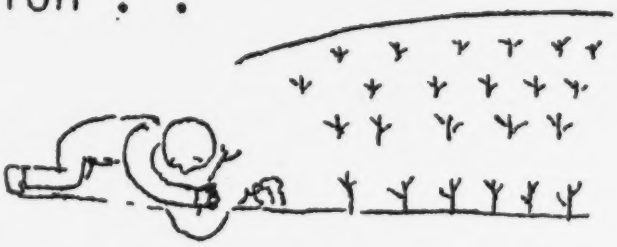
goes with the 's.

EROSION



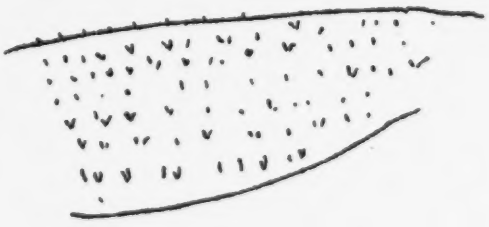
Look around the school yard. How much erosion do you see?

Erosion ! !

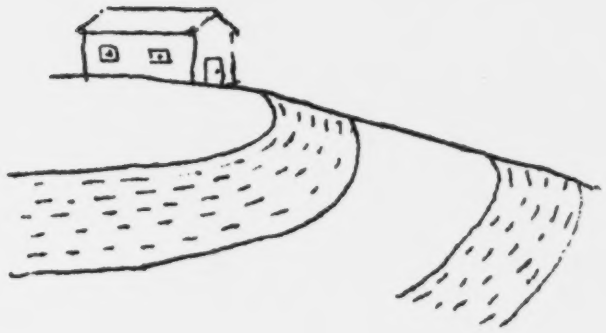


Plant trees

or grass



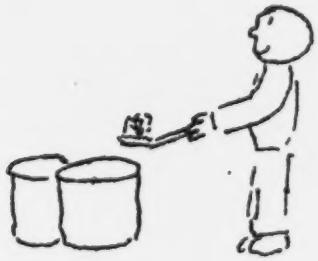
Contour plowing or terracing helps.



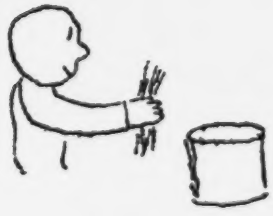
Mulch is very good to keep water or wind from moving soil.

Take two cans

Put about an inch of soil in each can.

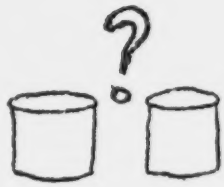


Put a hand full of leaves or grass on top of the soil in <u>one</u> of the cans.



Turn a water faucet on and put each can under the faucet for just a second.

Which can splashed mud on the side of the can?



TEACHER'S GUIDE

ACTION 2

What is soil?

The Basis for Life- This concept should be developed by discussion as much as the development level of the children allows.

Part A. Hello soil!

This is designed as an outdoor activity that can be conducted on the school grounds. Dig up some soil, different kinds if possible, and have the children use all of the senses in investigating it. Some of the possibilities are:

Smell - "earthy" smell of organically rich soil

Feel - texture of sand, silt, clay, and humus

Sound - gritty sound of some soils when crumbled

Sight - color, texture, etc.

Part B. The concepts shown here are the changing nature of soil and that soil is constantly being built up through various actions, such as the breakdown of rock particles and the decomposition of organic material.

Make some soil - The soft rocks should be sandstone or some other soft, easily broken rock. It is doubtful that the children will have the ability or the time to get more than a token amount of soil material by this method, so have a supply of sandy soil that will supplement what they get from the rocks.

In wetting the mixture of soil and humus, it is important to only dampen it well and not to saturate it, if the earthworms are to survive.

An experiment demonstrating the importance of earthworms could be set up by leaving them out of some of the "manufactured" soil. A difference in plant growth should be evident.

An ant farm is fascinating to children. These can be obtained commercially and are a good addition to the classroom. (Perhaps an ant farm could be purchased with class money raised by some recycling program, i.e. glass collection.)

Part C. Raindrops keep fallin'. Again, a walk around the schoolyard will usually show several examples of erosion. A bucket of water poured on a sodded slope as opposed to a bare slope can demonstrate erosion very graphically. The concept of erosion should be thoroughly understood.

The experiment with mulch should demonstrate the effect falling water has on mulched versus unmulched soil. The unmulched can should have mud splash up on the sides of the can when held under a stream of water with moderate pressure.

Contour plowing, terracing, and mulch are probably new words for most children. The project center would be very happy to learn of your methods of explaining these words.

ENVIRONMENT Idea 1 Land

Action 3

EVERY LITTER BIT HURTS!!

Waste is one of our worst habits. And where there is waste there is usually litter.

Yes, waste and litter are related. Much of our litter contains valuable resources we are wasting... a tin can, aluminum foil, a car.

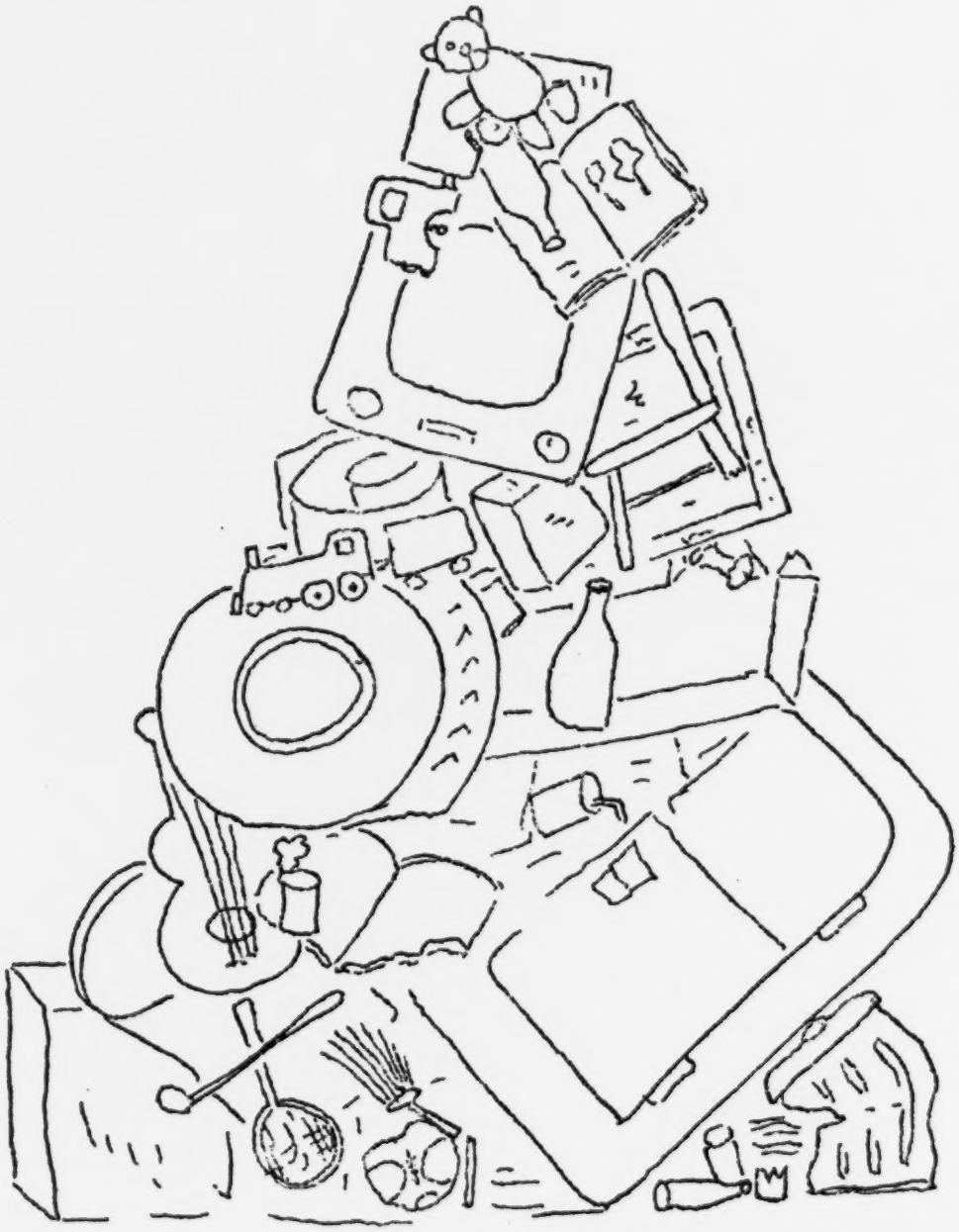
We need to put more present waste back into use.

When we re-use our natural resources, we call this recycling.

You can help.

1. Do not litter.
2. Collect glass, cans and paper.

MOUNTAINS OF TRASH

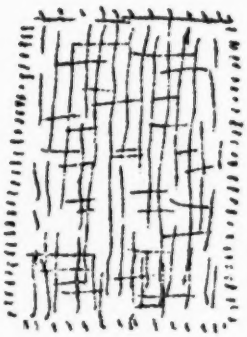


A. Make A Litter Bag

Litter bags help keep cars, boats and other places neat.

Here's how you can make a pretty one for Dad's car.

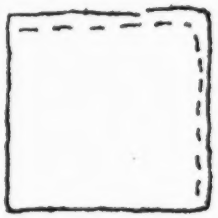
All you need is a piece of burlap about twice as large as the bag will be.



Hem one edge

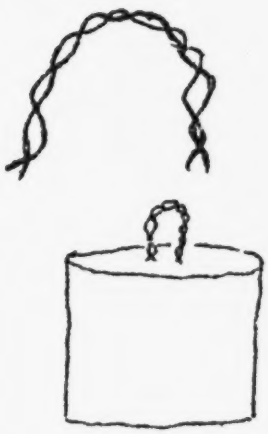
Fold it double

Have Mom sew around two edges with a sewing machine. Leave one end open.

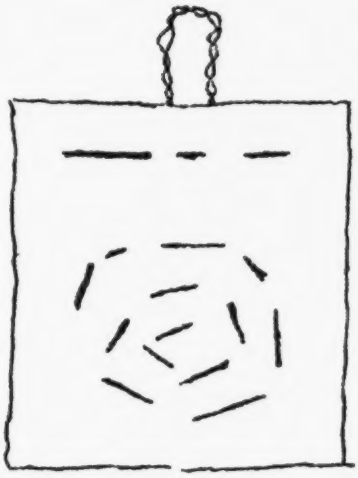


Turn inside out.

Make a handle by twisting a double strand of yarn and sewing it to one side of the bag.



Decorate by weaving different colored yarn through the burlap.



Can you think of any other way to make a litter bag? Could you decorate a paper sack?

B. Litter is waste

ABC's of stopping litter.

Always pick up after yourselves

(and others, too!)

Buy returnable containers

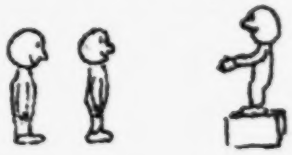
(and return them.)

Collect used glass, cans, paper, etc.

(they can be sold and recycled.)

Deposit litter in the proper containers.

Encourage others to stop littering.

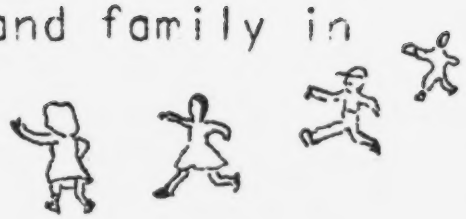


Find products whose containers break down easily. (Eat a fresh orange instead of orange juice from a can.)

Go to the person in charge if you see a litter problem. (Ask him to help you solve the problem.)

Hide trash barrels and garbage pails with a screen of some kind. (A pretty bush is nice.)

Involve your friends and family in stopping litter.



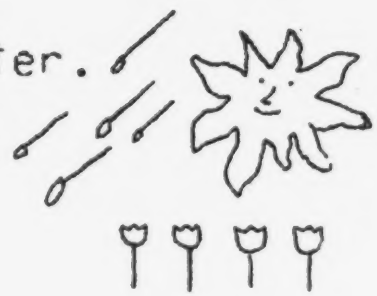
Jelly jars can be reused or recycled.

Kick a ball instead of a tin can. (Put the can in your recycling bin.)

Litter is ugly! If we all quit littering, our world would be much prettier.

Mash tin cans to take less space in your recycling bin.

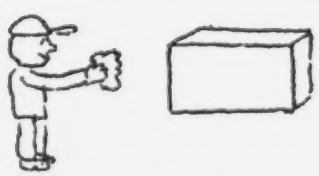
No litter is good litter.



Only <u>you</u> can stop littering!

Please don't litter!

Quick! Put it in the recycling bin.



Reuse! Return! Recycle!

Stop! Don't litter!

Take your returnables back.

Use things over instead of throwing them away.

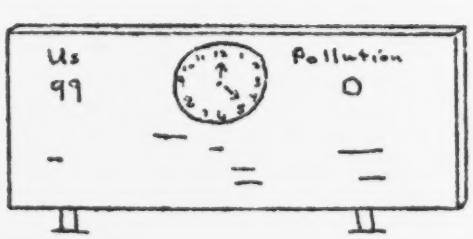
Victory over litter!

Wash bottles and cans before recycling.

Xtra effort is required.

You can do your part!

Zero pollution is our goal!



TEACHER'S GUIDE

ACTION 3

Every litter bit hurts! Most of the children have been exposed before to anti-litter campaigns and often these campaigns are moderately successful. Usually, however, anti-litter slogans and literature stop with putting trash in the trash barrel. This unit would like to extend this into an awareness of what recycling wastes is all about and, hopefully, to have the children make some effort towards recycling some things themselves. This could be a home project where paper, glass, and tin cans are collected for recycling, or it could be a class or school project. # (One school is collecting glass to be sold to a recycling plant and is using the money to buy some equipment not in their regular budget.)

Some suggestions:

1. Show the film, "Lassie"s Litter Bit". The Environmental Education Project Center has one copy for use along with anti-litter pledge cards, courtesy of the Pepsi-Cola Co.

2. Flatten some tin cans to show that they will take up less space.

3. Make a "Flowering Trash" tree. Collect litter from the school yard of some other spot and make a display for the classroom or hall by attaching the items collected to a tree branch anchored in a tub.

4. Have students reuse paper in the classroom. (We usually only write or draw on one side of the paper - the other side is perfectly usable for some other project). Monitors could be selected to collect reusable paper and redistribute it.

* A tour of the glass plant or Box Board Company would be beneficial to show what happens to the used materials that are recycled.

ENVIRONMENT Idea 1 Land

Action 4

TEACHER DIRECTED ACTIVITY

What Kind of World Do You Want?

Make a 3-D Diorama

Materials:

Per child - 1 - ½ gallon pure-pak milk carton
4 - 5" x 8" index cards or other light cardboard
Pictures (Reproduce from master sheet)
Sissors
Crayons
Transparent tape
Construction paper

Teacher - Razor blade
Paste or glue

Instructions

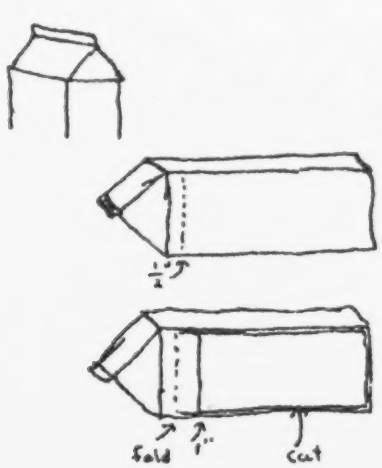
Milk carton

1.
1. Reseal gable end.

2. Measure ½" from top - make a light cut (not all the way through).

3. Measure 1" from top and cut out side of carton from there. This leaves a 1" projection at one end - cut through to the ½" cut and fold back.

4. Repeat on the opposite of the carton.



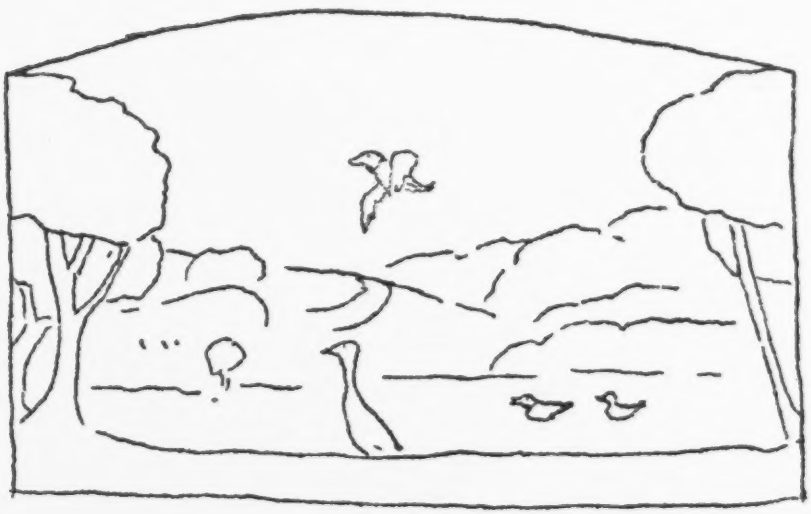
Pictures:

5. Paste pictures on light cardboard (5" x 8" index cards will do nicely; the middle and front sections together will fit on one card.)

6. Color appropriately (Scene I with greens, blues, etc.; Scene II with browns and blacks.)

7. Cutout on heavy lines.

8. Use transparent tape to attach sections together at ends. The back section will be curved, the middle section curved somewhat less, and the front section will be straight, forming a three dimensional picture.



9. Insert picture in milk carton (carton can be painted or covered with construction paper. Blue and brown paper can be put on floors of carton to enhance the effect.

10. It is not absolutely necessary to use the milk carton (this <u>is</u> a method of reusing cartons!); the pictures will stand on their own.

11. Use your imagination and allow the children to use theirs; improvise, let the children draw their own pictures, etc.

ENVIRONMENT Idea 1 Land

Action 5

"Let's Go on a Field Trip"

A field trip is to be taken during your teaching of the land unit. The field trip is an integral part of the land unit. It emphasizes the concepts learned, or to be learned by the students. On-the-spot observation is a valuable learning technique. Consult the "Teachers' Policy Handbook" for field trip dress, discipline, and general instructions.

A. Facts or Concepts?

Mind filling, factual, see-all field trips have been a traditional approach to the field trip in the past. The question is, "Is the child given any responsibility for learning on his own?" Does he retain more from being spoon-fed facts or from being allowed to learn from his own interest and involvement?

Experience and research indicate that children learn more when they become personally involved in the learning process. This can be achieved by allowing the child to participate in the initial planning of the field trip, and to select a specific investigation on the field trip for which he will be responsible. These specific investigations will be within the bounds of the concepts to be presented on the field trip and in the unit.

The concepts below are only a few of the many that students should come to understand when learning about the environment. Additional concepts may be emphasized at the teachers' discretion. The concepts to be presented are as follows:

1. Soil is a natural resource.
2. Man is dependent on the renewable resources for his survival.
3. Everyone has the responsibility for conserving the soil around him.
4. Living things are interdependent with each other and with their environment.
5. Change is the only constant of our environment.

B. Where Do We Go?

The above concepts can be illustrated at a number of field sites. The actual field trip site choice should result in a discussion with your students. Let the students feel a part of the final decision--Their interest will be enhanced by your concern over their choices. Field trips will be taken to the closest suitable site.

Suggested field trip sites would include:

1. Local wooded area, e.g. Alton ravines; student's farm; school site nature area, etc.

2. City park or county owned property.

3. Pere Marquette State Park; Beaver Dam State Park; other nearby state parks.

C. How Do We Teach Concepts?

Student participation in selecting the field trip site should be carried over into the activities to be done on the trip as much as possible depending on the age level and maturity of the class and individual students.

Suggested Field Trip Activities

Methods of procedure in carrying out these activities should be carefully planned and reviewed in preparation for the field experience. Considerations to be made are:

a. equipment or supplies needed to carry out the activity.
b. method of recording the data to be gathered.
c. method of reporting the data in a meaningful way.
d. follow-up activities that will extend and strengthen the concept.

Concept 1: People depend on natural resources.

Activity - visit a home and make a survey of the natural resources used in the home. You may also wish to conduct the survey in your school. Visit a store and evaluate the products sold. What resources are utilized? Does scarcity and demand effect the value of products? Visit a park - discuss natural resources being used or not being used.

Have students suggest natural resources available in their own community (farm land, recreation areas, quarries, rivers, etc.) and plan a trip to observe as many of these as possible.

Concept 2: Soil is a natural resource and should be protected.

Activity - At a site with moderate gully erosion, have the students conduct their own methods of slowing or stopping the gullies from becoming larger, e.g. dams, contouring, putting brush or sod in the gullies, etc.

Activity - Start a compost heap on the school grounds or individually at home. Use the handout on composting for information on methods of construction. A demonstration on the school grounds would be very helpful by providing techniques the students could follow.

Concept 3: Litter is unsightly as well as being wasteful.

Activity - various litter "clean=up" activities are possible. Sorting litter for recyclable material and setting up recycling stations for the material collected is desirable. A playground or park the children are familiar with are good sites.

Concept 4: People have a great deal to say about what kind of world they live in.

Activity - litter clean-ups can be extended under this concept. Visit a park or other recreation facility. The students can voice suggestions for improvements in the facilities. Visit open farm land or wooded areas. Have students suggest reasons for keeping these areas as they are rather than using the areas for homes or factories.

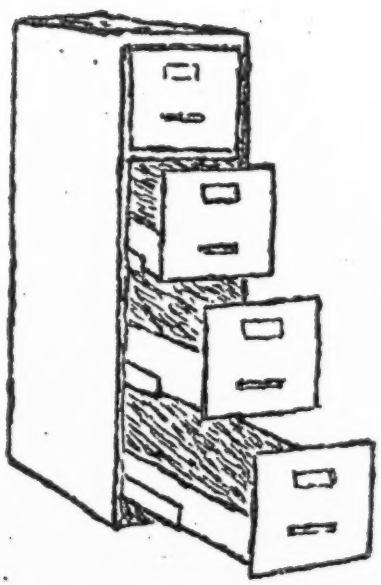
ENVIRONMENT Idea 1 Land

ACTION 6

"A Resource Key to Open the Mind"

Often teachers desire additional reading material, visual experiences or discussions to enrich a student's learning experiences. Listed below are materials which may be borrowed from the Environmental Project Center, area resource people, and free films. This listing, however, does not include resources which may be found in local school or public libraries.

A. Move Upward With the Vertical File



The Project Staff has accumulated and filed a number of pamphlets, newspaper clippings and magazine articles which are available to teachers for use as resource material. Teachers may borrow, for two weeks, a maximum of four articles from any one heading in the vertical file. Articles may be obtained by mail, by contacting one of the Project Staff or by calling the Project Center at 786-3313. The following headings appear in the vertical file.

1. Agriculture
2. Agricultural Pollution
3. Community Planning
4. Community Planning - Zoning
5. Conservation - Districts
6. Conservation - Soil
7. Conservation - Wildlife
8. Ecology
9. Forestry
10. Governmental Control - Federal - Pesticides

11. Hunting and Trapping
12. Insects - Control
13. Land
14. Landfill
15. Litter
16. Mines - Waste
17. National Resources
18. Pesticides
19. Plastics
20. Population
21. Recreation
22. Recreation - Illinois
23. Recreation - National Parks and Forests
24. Recycling
25. Soil
26. Solid Waste
27. Terrarium
28. Urbanization
29. Wildlife

B. Enough for Each Student

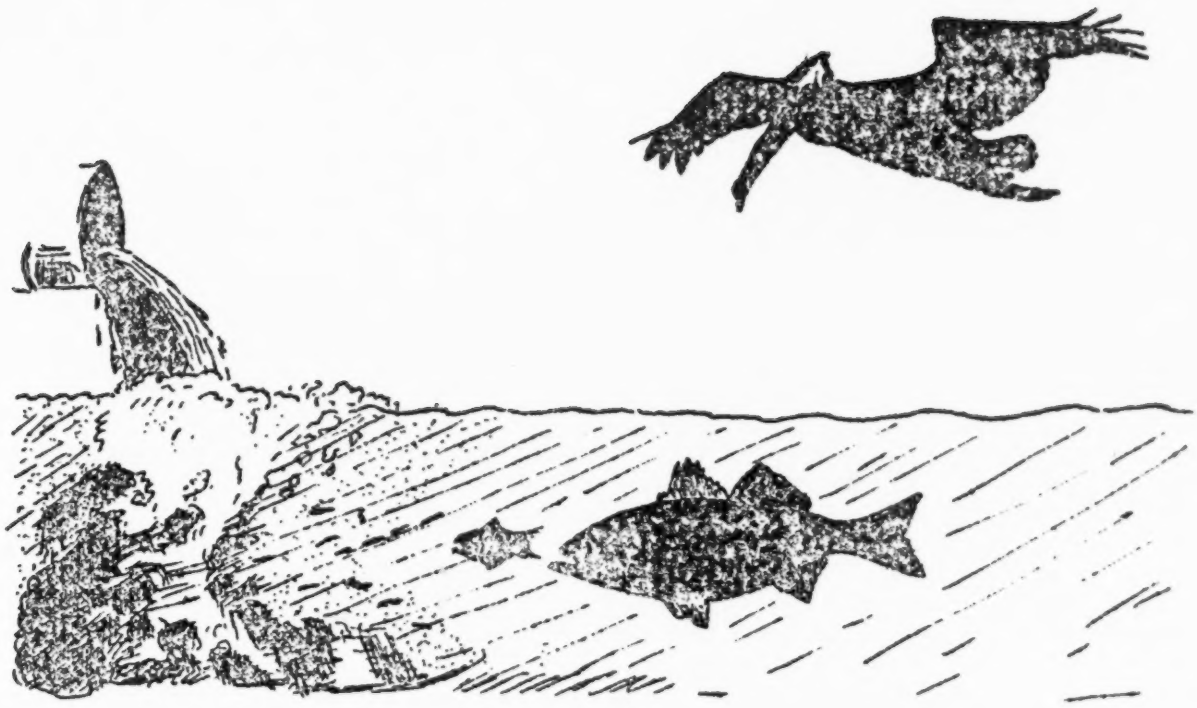
The Project Center also has multiple copies of certain resource materials which may be borrowed by a class. If the teacher desires, and it is possible, each student may study his personal copy of a pamphlet for a maximum of two weeks. Such bulk requests should be directed to the Project Staff.

All of the material listed below was obtained free of charge. The teacher or school librarian may obtain permanent copies for their building or classroom by directing requests to the following agencies.

1. "CONSERVATION - A PICTURE DISCUSSION KIT"

American Petroleum Institute
1271 Ave. of the Americas
New York, New York 10020

Aids in the discussion of basic principles of Ecology.



2. "WHAT'S THE LATEST WORD ON RE-USING GLASS"

American Trucking Assoc.
Washington, D.C.

Frank Blain interviews R.L. Cheney, Executive Director
Glass Container Manufacturers Institute.

C. Those Who Know

The following is a listing of possible resource people and their titles. You may want to ccntact one of these resource people about the possibility of speaking to your class.

Jersey County

John Pero, Extension Administrator
Cooperative Extension Service, University of Illinois
405 South State, Jerseyville, Illinois Phone: 618-498-4821

Walden Lewis, Area Forester
Illinois Division of Forestry, Department of Conservation
124 West Pearl, Jerseyville, Illinois Phone: 618-498-2828

David Harper, Game and Fish Biologist
Illinois Department of Conservation
142 Robert Street, Jerseyville, Illinois Phone: 618-498-4243

Tom Lamer, District Forester
Illinois Division of Forestry, Department of Conservation
124 West Pearl, Jerseyville, Illinois Phone: 618-498-2828

George Lessig, Fire Warden
Illinois Division of Forestry
124 West Pearl, Jerseyville, Illinois Phone: 618-498-2828

George Threldkeld, District Conservationist
U.S. Department of Agriculture
301 South Jefferson, Jerseyville, Illinois Phone: 618-498-3712

Ray Carter, Soil Conservation Technican
U.S. Department of Agriculture
301 South Jefferson, Jerseyville, Illinois Phone: 618-498-3712

Sue Wright, Park Interpreter
Pere Marquette State Park
Grafton, Illinois Phone: 618-786-3718

Dr. Paul Kilburn, Assoc. Professor of Biology
Principia College
Elsah, Illinois Phone: 618-466-2131

Sally Vasse
Audubon Society
Mark Twain Wildlife Refuge Phone: 618-883-2523

Madison County

Dr. Harry B. Kirchner, Assoc. Professor of Earth Science
Southern Illinois University
Edwardsville, Illinois Phone: 618-692-3620

Paul Hawkins, Madison County Sanitation Officer
Madison County Court House, Edwardsville, Illinois
Phone: 618-656-0913

Dale Sherrard, District Conservationist
U.S. Department of Agriculture
P.O. Box 482, Edwardsville, Illinois Phone: 618-656-4710

Dana Grantham, Soil Scientist
U.S. Department of Agriculture
P.O. Box 482, Edwardsville, Illinois Phone: 618-656-4710

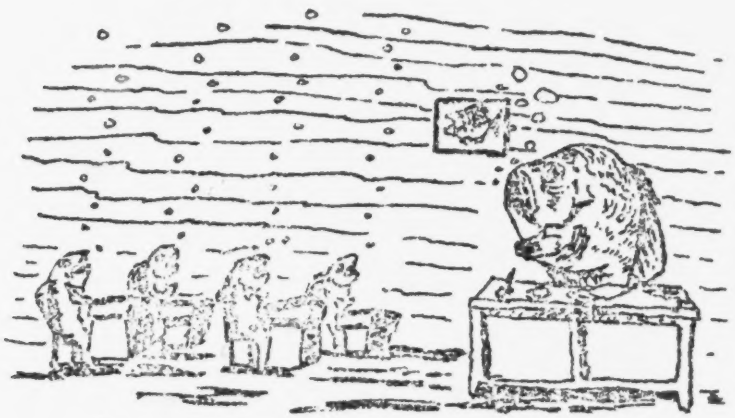
Melvern Allen, Conservation Engineer
U.S. Department of Agriculture
P.O. Box 482, Edwardsville, Illinois Phone: 618-656-4710

Dave Horn, Superintendent of Sanitation
Public Works Department, City of Alton
101 East 3rd. Street, Alton, Illinois Phone: 618-465-4226

Ralph Wandling, Director of Public Works
101 East 3rd. Street, City of Alton, Illinois
Phone: 618-465-4226

Pride Incorporated
Williams and West Broadway, Alton, Illinois
Phone: 618-465-3525

Norman Klueter, Chairman
Madison County Soil and Water District Committee
P.O. Box 482, Edwardsville, Illinois Phone: 618-656-7300



The Following Are Members Of The Alton Environmental Ecological Control Committee.

Dr. J. Edmund White, Head of the Department of Chemistry
Southern Illinois University, Edwardsville, Illinois
Phone: 618-692-2042

Cornell C. Brown, employed at Laclede Steel Co.
1118 Harrison Street, Alton, Illinois
Phone: 618-462-9821

Richard E. Brobst, Chemist at Olin Works
27 Holly Hill, Alton, Illinois
Phone: 618-462-7414

Nick Bono, engineer at WOKZ Radio
3105 Clay Street, Alton, Illinois
Phone: 618-462-0181

Francis Hogan, engineer at Owens-Illinois
3116 Burton, Alton, Illinois
Phone: 618-462-2365

Mrs. Laraine N. Rowse
807 Grove Street, Alton, Illinois
Phone: 618-462-7867

Marvin Mondy, biology teacher at Alton High School
1619 Seminary Road, Alton, Illinois
Phone: 618-462-7164

Robert Busse, Director of Parks and Recreation-Alton
Rock Springs Park, Alton, Illinois
Phone: 618-462-9711

Macoupin County

George Caveny, Macoupin County Board of Supervisors
R.R. Shipman, Illinois
Phone: 618-836-4706

Harley Briscoe
Soil Conservation Service
805 North Broad Street, Carlinville, Illinois
Phone: 217-854-6711

Harold Landon
Agricultural Stabilization and Conservation Service
805 North Broad Street, Carlinville, Illinois
Phone: 217-854-6711

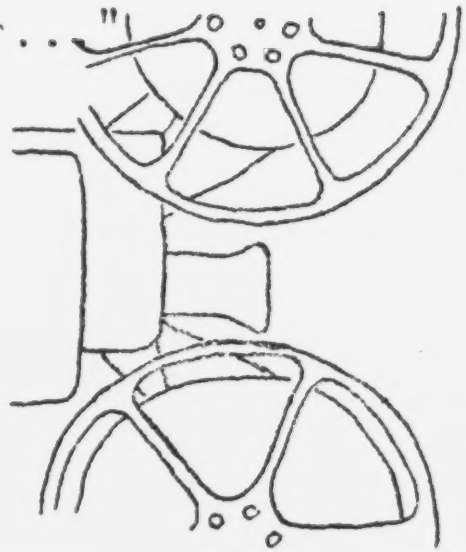
Bill McAllister
Extension Farm Advisor
126 North Broad Street, Carlinville, Illinois
Phone: 217-854-5946

James England, Conservation Officer
Illinois Department of Conservation
R.R. 2 Carlinville, Illinois
Phone: 217-854-6461

Frank Simmermaker, Park Ranger
Illinois Department of Conservation
R.R. 2 Box 61 Plainview, Illinois
Phone: Shipman - 618-836-4871

D. "I See and I Remember..."

The following is a listing of free films which may be obtained if a teacher so desires. The films may be borrowed from the sources given below with the only cost involved being that of return postage. Those marked with an asterick (*) are not in color.



TITLE OF FILM	SOURCE OF FILM	LENGTH
Heritage of Splendor (each person is responsible for keeping America beautiful)	Modern Talking Picture Service, Inc. c/o Swank Motion Pictures, Inc. 201 South Jefferson St. Louis, Missouri 63103 Phone: 314-334-5211	14 min.
Adventures of Bunny Rabbit* (family life of cottontail rabbit)	Film Loan Service Division of Education Illinois Department of Conservation State Office Building Room 113 400 South Spring Springfield, IL 62706	
The Beaver (activities of the beaver in its natural environment)	Same as above	11 min.
Bushy the Squirrel (habits and characteristics of squirrels)	Same as above	11 min.

TITLE OF FILM	SOURCE OF FILM	LENGTH
Gray Squirrel * (daily activities of three young squirrels and mother)	Film Loan Service Division of Education Ill. Dept. of Conservation State Office Building Room 113 400 South Spring Springfield, IL 62706	11 min.
Cottontail (life story of cottontail rabbit)	Same as above	50 min.
Spotty: Story of a Fawn * (wild fawn in woods)	Same as above	12 min.
The Litterbug (S-996) Donald Duck ridicules littering	Association Films, Inc. 512 Burlington Ave. La Grange, IL 60525	8 min.
Lassie's Litter Bib (2990) (Lassie aids animal trapped by litter)	Modern Talking Picture Service 201 South Jefferson Ave. St. Louis, MO 63166 Phone: 314-334-5211 (also available from project center)	28 min.
Little Animals (Sets up three criteria for animals, they feel, move and eat)	IL State Museum Audio Visual Dept. Spring and Edwards St. Springfield, IL 62706 Phone: 525-6317	11 min.
Mr. and Mrs. Robin's Family (the annual cycle of the robin)	Same as above	10 min.